

Soil Nutrient Parameters	Results (ppm)	Target Range (low)	Target Range (high)	Low	Target	High
pH	5.91					
Microbial Respiration	26	100.00	200.00			
PLANT AVAILABLE NUTRIENTS						
Nitrate Nitrogen	93.75	158.60	171.60			
Ammonium Nitrogen	4.00	5	7			
Total Nitrogen	25.00	90	140			
Inorganic Phosphorus	2.40	8	10			
Potassium	24.60	28	34			
Calcium	56.91	216	270			
Magnesium	11.24	20	35			
Sodium	1.05	8.00	10.00			
Sulfur	6.20	18	23			
Zinc	0.97	0.72	0.88			
Manganese	1.38	0.80	1.03			
Iron	11.01	4.05	4.95			
Copper	0.03	0.20	0.24			
Boron	0.03	0.31	0.39			
Molybdenum	0.000	0.04	0.06			
Silicon	1.14	9.99	12.21			
Chloride	2.22	5.97	7.63			
ORGANIC FRACTIONS						
Total Organic Carbon	88.00	200.0	400.0			
Root Exudate Nitrate Nitrogen	0.51	47.44	57.98			
Root Exudate Ammonium	8.30	5.00	7.00			
Total Organic Phosphorus	9.26	25.41	31.05			
Humic Acid (Oxidized)	0.09	1.00	2.50			
Fulvic Acid (Reduced)	0.53	2.50	3.50			

	Base Saturation	Target
K	14.1%	6-15
Mg	21.0%	20-25
Ca	63.8%	60-75
Na	1.0%	2-3
Mn3 ⁺	15.1%	5-6
Fe2 ⁺	78.8%	45-55
Fe3 ⁺	84.8%	55-60
Cu2 ⁺	0.2%	1-2
Zn2 ⁺	5.9%	3-4
Mo	0.00%	0.1-0.3

Wood decaying fungi produces oxidative enzymes such as the manganese peroxidase enzyme. Fungi and bacteria that are present require a zinc-dependent enzyme to degrade organic compounds. The Adamah soil report above reveals the manganese peroxidase and zinc enzymes are present which is causing humic acid formation in the below picture. Reducing/oxidizing ratios at a 5.9 are also indicating the environment is aerobic.

